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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS:

ENVIRONMENTALLY SOUND MANAGEMENT OF SOLID WASTES AND SEWAGE-RELATED ISSUES: OPTIONS FOR AGENDA 21
(Annex II)

OPTIONS FOR AGENDA 21

Report of the Secretary-General of the Conference

INTRODUCTION

The text in this document represents the final text as adopted by Working Group II after the informal consultations on agenda item 4 (b) (ref. document A/CONF.151/PC/WG.II/L.19/Add.1) during the Third Session of the Preparatory Committee for the United Nations Conference on Environment and Development.

Furthermore the Secretary-General of the Conference was also requested by the Preparatory Committee, according to resolution 3/23, to submit to it, at its fourth session, document A/CONF.151/PC/WG.II/L.19/Add.1, as revised during the informal consultation at the third session.

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ANNEX II

ENVIRONMENTALLY SOUND MANAGEMENT OF SOLID WASTES AND SEWAGE-RELATED ISSUES: OPTIONS FOR AGENDA 21

INTRODUCTION

1. Environmentally sound waste management must go beyond simply disposing of, safely, the wastes that are generated and seek to address the root cause of the problem by attempting to change unsustainable patterns of production and consumption. This implies the application of the integrated life cycle management concept. Defined thus, the options for action under the programme on environmentally sound management of solid wastes and sewage present a unique opportunity to reconcile development with environmental protection.

2. Correspondingly, the framework of the options for action is founded on a hierarchy of four objectives:

- Minimizing wastes
- Maximizing waste reuse
- Promoting safe waste disposal
- Extending waste disposal service coverage.

Such a four-goaled programme constitutes a comprehensive and environmentally-responsive framework for managing wastes in the future.

3. It is recognized that some of these goals cannot be accomplished immediately in either industrialized or developing countries. Changing production and consumption patterns which must characterize improvements in waste-management in industrialized countries require public support and incentives to manufacturers and can take considerable time to put into effect. Current consumption levels in developing countries are low and substantial increases will be inevitable as these countries attain basic standards of economic welfare. The instilling of sound waste-management policies and approaches now could help ensure a sustainable development process for the future. In addition, some improvement in both the quality of service and environmental protection achieved by present day waste production and disposal practices is required for most developing countries. For the urban poor populations who already reduce and make alternative use of much of their wastes the priority is often to have access to safe waste-disposal systems.

SECTOR-WIDE OBJECTIVES FOR WASTES

4. Following are the overall sector-wide objectives:

a. Minimize the generation of waste; where generation of waste cannot be avoided, ensure that all wastes are safely recycled, treated or disposed of.

b. Ensure that the living and working environment of all people is isolated from all forms of waste.

c. Ensure that waste-related surface and groundwater and soil pollution is eliminated.

PROPOSED PROGRAMME AREAS

5. The following four major waste-related programme areas are proposed as options for consideration by the Preparatory Committee:

- Minimizing wastes
- Maximizing waste reuse
- Promoting safe waste disposal
- Extending waste disposal service coverage.

6. The above programmes are not in any order of priority, as priorities will vary from one country to the next. In fact, for many developing countries the programme to improve and extend waste-disposal service coverage will remain the first priority for many years to come. The four programme areas together will help in the achievement of sector-wide goals for wastes in a comprehensive manner. Within each programme area, a number of actions will need to be undertaken and should seek to build upon current activities and programmes at the global, regional, national and local levels.

A. MINIMIZING WASTES

Basis for action

7. Unsustainable patterns of production and consumption are increasing the quantities and variety of environmentally persistent wastes at unprecedented rates. The trend could double the quantities of wastes produced by the end of the century and increase quantities by between four and fivefold by the year 2025. A preventive waste-management approach focused on changes in lifestyles and in production and consumption patterns offers the best chance for reversing current trends.

Objectives

8. [With the aim to stabilize or reduce the production of wastes destined for final disposal over an acceptable time-frame, countries with international organizations cooperation could establish national production rates per capita, in urban and rural areas based upon the volume of wastes produced in those areas respectively.]

9. Countries in cooperation with international organizations, could strengthen procedures for assessing waste quantity and composition changes and for making waste-minimization policies operational.

10. [Some targets of the programme could include:]

a. By [2000] ensure sufficient national, regional and international capacity to access, process and monitor waste-trend information and implement waste-minimization policies.

b. [By [2000] all industrialized countries should have in place programmes to stabilize per capita waste production of waste, destined for final disposal, at the level prevailing at those dates; developing countries should as well work towards the goal to stabilize their waste production rates, without jeopardizing their development prospects.]

c. [By [2025] produce annual periodic reviews with full global coverage.]

d. [By the year [2000] all countries, in particular industrialized countries should apply programmes in order to reduce the production of agro-chemical wastes.]

Activities

11. Monitoring is a key prerequisite for keeping track of changes in waste quantity and quality and their resultant impact on health and the environment. The following specific activities could be undertaken to support monitoring:

a. Relevant United Nations bodies coordinate the development of methodologies for country-level waste monitoring and use and expand existing monitoring mechanisms such as UNEP's Global Environmental Monitoring System (GEMS); WHO's Drinking Water Supply and Sanitation Coverage Data and Global Epidemiological Statistics; and UNCHS (Habitat)'s Human Settlements Statistical Data Base (HSDB.stat) programme for developing a harmonized data collection system.

b. Countries, with appropriate international cooperation, identify and strengthen local institutions for gathering the requisite data.

c. The relevant United Nations bodies undertake to process the data and report systematically to the countries concerned and an appropriate United Nations forum.

d. Countries use the data to assess how environmentally sound their waste policies are and act accordingly.

12. Instruments for waste-minimization will need to be identified and widely disseminated. These could include:

a. Relevant international organizations could undertake an extensive review of the effectiveness of all waste-minimization instruments, and identify potential new instruments that could be used and techniques by which they could be made operational at the country level. Guidelines and codes of practice could be developed.

b. Countries could make waste prevention and minimization the principal objective of their waste-management programmes.

c. Countries could promote public education and a range of regulatory and non-regulatory incentives to encourage industry to change product design and reduce industrial process wastes through cleaner production technologies and good housekeeping practices and encourage industries and consumers to use types of packaging that can be reused, in particular refillable packaging.

d. Countries in accordance with their capacities could implement demonstration and pilot programmes to optimize waste minimization instruments.

e. Governments, 1/ especially in developing countries, with cooperation from international organizations, could establish programmes for adequate transport, storage conservation and management of agricultural products, food stuffs and other perishable goods in order to reduce loss of these products, which results in the production of solid waste.

13. Consciousness raising, education, information and research aimed at promoting waste minimization are crucial for obtaining citizen and industry support. Countries could consider the following options in the development of their programmes:

a. Countries, in cooperation with educational establishments could include within school curricula principles and practices of preventing and minimizing wastes and the environmental impacts of waste.

b. [Countries in cooperation with educational establishments should elaborate pedagogical and teaching materials which would support training programmes aimed to preventing and minimizing the production of wastes and its impact on the environment.]

c. [Countries, together with NGOs, could sensitize the society to the need for waste minimization as an integral part of solid waste management.]

d. Relevant international organizations could develop media packages for adaptation and use in local campaigns.

e. Countries could increase funds for applied research on waste minimization and provide an enabling framework for industry to do likewise.

1/ [Throughout this document "Governments" also refers to the European Community acting in the sphere of its competence.]

f. International organizations could intensify and further develop the activities of the networks relating to information exchange on clean technologies and waste-minimization.

g. Governments could promote centres of excellence for training in waste-management, building on appropriate national institutions and encouraging international cooperation, including through institutional links.

14. Capacity building will be crucial to allow countries, especially developing countries, to develop and implement waste-minimization at the local and national levels. Some of the activities that could be undertaken are:

a. The relevant United Nations and other international bodies, in cooperation with countries and where appropriate NGOs, could provide increased technical and financial assistance to build up technical, managerial, planning, monitoring and administrative capacities to implement waste prevention and minimization as the priority objective of overall waste management programmes.

b. [Countries could facilitate transfer of waste-reduction technologies to industry, and establish concrete national targets for effluents and solid wastes and for raw material use and energy consumption.]

[The implementation by developing countries of specific programmes and actions envisaged under Agenda 21 will be subject to the provision of adequate new and additional financial resources and of technology on concessional, preferential and non-commercial terms.

Proposals for means of implementation will include the following heading:

- Financing and cost evaluation
- Scientific and technological means
- Human resources development
- Building capacity of developing countries for preventive and corrective action in the field of environmental protection and promotion of development.]

B. MAXIMIZING WASTE REUSE

Basis for action

15. The exhaustion of traditional disposal sites, stricter environmental controls governing waste-disposal, and increasing quantities of more persistent wastes have all contributed to a rapid increase in the cost of waste-disposal services. Costs could double or triple by the end of the decade. Current disposal practices pose a threat to the environment. As the economics of waste-disposal services change, waste recycling and resource recovery are becoming increasingly cost-effective. Future waste-management programmes should take maximum advantage of resource-efficient approaches to management.

Objectives

16. Countries, in cooperation with international organizations, could strengthen and increase their recycling systems.

17. The United Nations should develop an internal recycling programme for main waste streams including paper, to the extent possible, including the use of recycled papers.

18. Countries and international organizations could ensure the availability of information techniques and appropriate policy instruments to encourage and make operational waste recycling schemes.

19. [Some targets of the programme could include:]

a. [By [2000] [ensure]/[promote] sufficient [financial and technological capacities at the regional, national and local levels] national and local regional capacity to implement waste recycling policies and actions.]

b. By [2010] all industrialized countries and by [2010] all developing countries should have a national programme including to the extent possible [concrete] targets for efficient waste recycling.

Activities

20. Information and research is required to identify promising socially-acceptable and cost-effective forms of waste recycling relevant to each country. For example, supporting activities could include:

a. International and regional organizations could undertake an extensive review of options and techniques for recycling all forms of wastes. Policies for recycling could be made an integral component of national and local waste-management programmes.

b. Countries, with appropriate international cooperation, could assess the extent and practice of waste recycling operations currently undertaken and identify ways by which these could be intensified and supported.

c. Countries, with appropriate international cooperation, could increase funding for applied research pilot programmes to test out various options for recycling, including the use of small, cottage-based recycling industries; compost production; treated wastewater irrigation; and energy recovery from wastes.

d. International and regional organizations could produce guidelines and best practices for waste recycling.

e. Relevant United Nations bodies, in cooperation with Governments and NGOs, could intensify efforts at collecting, analysing and disseminating to key target groups relevant information on waste issues. Special research grants could be made available on competitive basis for innovative research projects on recycling techniques.

21. Incentives for waste recycling are numerous. Countries could consider the following options to encourage industry, institutions, commercial establishments and individuals to recycle wastes instead of disposing of them:

a. Offer incentives to local and municipal authorities that recycle the maximum proportion of their wastes.

b. Provide technical assistance to informal waste recycling operations.

c. Apply economic and regulatory instruments, including tax incentives to support the principle that generators of wastes pay for their disposal.

d. Provide legal and economic conditions conducive to investments in waste recycling.

e. Implement specific mechanisms such as deposit/refund systems as incentives for recycling.

f. Promote the separate collection of recyclable parts of household wastes.

g. Consider incentives to improve the marketability of technically recyclable waste.

h. Encourage the use of recyclable materials, particularly in packaging, when feasible.

i. Encourage the development of markets for recycled goods by establishing programmes.

22. The transfer of technologies could support waste recycling and reuse:

a. The United Nations, intergovernmental and other relevant organizations, could include the transfer of recycling technologies, such as machinery for reusing plastics, within their technical cooperation and aid programmes.

b. The United Nations, regional organizations, national governments and NGOs could develop and improve existing technologies, especially indigenous technologies, and facilitate their transfer under ongoing regional and interregional technical assistance programmes.

c. [National Governments could facilitate technology transfer for waste recycling by exempting such technologies from import taxes and other restrictions.]

23. Training will be required to reorient present day waste-management practices to include waste recycling. The following is an indicative list of actions that might be incorporated:

a. The United Nations, international and regional organizations could include waste recycling in-service programmes as integral components of their technical cooperation programmes on waste-management, urban management and infrastructure development.

b. Existing training programmes on water supply and sanitation could be expanded to incorporate techniques and policies for waste recycling.

c. The advantages and civic obligations associated with waste recycling could be included in school curricula and relevant general educational courses.

d. NGOs, community-based organizations and public interest groups in collaboration with local municipal authorities could do much to mobilize community support for waste recycling through focused community-level campaigns.

24. Capacity building to support increased waste recycling could focus on the following areas:

a. Ways by which national Governments can make operational national policies and incentives for waste-management.

b. Methods of enabling local and municipal authorities to mobilize community support for waste recycling by involving and assisting the informal sector waste recycling operations and undertaking waste-management planning which incorporates resource recovery practices.

c. [Financial and technical cooperation will be required for resource recovery infrastructure planning and implementation.]

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C. PROMOTING SAFE WASTE-DISPOSAL

Basis for action

25. Even when wastes are minimized and recycling has been maximized, some wastes will still remain. Even after treatment, all discharges of wastes have some residual impact on the receiving environment. Consequently, there is scope for improving waste treatment and disposal practices such as, for example, avoiding the discharge of sludges at sea. In developing countries the problem is of a more fundamental nature: less than 10 per cent of urban wastes receive any form of treatment and only a small proportion of treatment is in compliance with any acceptable quality standard. Fecal matter treatment and disposal should be accorded due priority given its potential threat to human health.

Objectives

26. Countries, with appropriate international cooperation, could treat and dispose safely an increasing proportion of the generated wastes with time.

27. [Some targets of the programme could include]/[Policies could include]:

a. By [1995] all countries could establish waste treatment and disposal quality criteria based on the nature and assimilative capacity of the receiving environment.

b. By [2000] countries could establish sufficient capacity to undertake waste-related pollution impact monitoring and conduct regular surveillance [including epidemiological surveillance].

c. By [1995] industrialized countries and by [2000] developing countries could ensure that at least 50 per cent of all sewage, wastewaters and solid wastes are treated or disposed of [in conformity with environmental quality criteria].

d. By [2025] countries could dispose of all sewage, wastewaters and solid wastes [in conformity with internationally agreed and accepted environmental quality criteria].

Activities

28. Standard setting and monitoring are two key elements essential for gaining control over waste-related pollution. The following specific activities are indicative of the kind of supportive actions that could be taken:

a. Relevant United Nations agencies and other relevant international organizations could cooperate with governments in assembling and analysing the scientific evidence and association of pollution impacts of wastes in the environment in order to formulate and disseminate recommended international scientific criteria and guidelines.

b. Countries could establish national and, where relevant, local environmental quality standards based on international scientific criteria and guidelines.

c. Relevant international organizations and institutions could include within their technical cooperation programmes and agreements the provision of monitoring equipment and requisite training for their use.

29. Institutional reforms and capacity building will be indispensable if countries are to be able to quantify and mitigate waste-related pollution. Some activities to achieve this objective could include:

a. [Each and every State should provide an environmentally sound solution, for the wastes it produces within its own territory, without it being acceptable to be exported to third countries or disposing it in areas, which are not subject to State sovereignty.]

b. Countries that do not have independent environmental control bodies could be encouraged to establish these at national and local levels. International organizations and donors could support needed manpower skill-upgrading and provision of equipment.

c. Countries could empower pollution control agencies with the requisite legal mandate and financial capacities to carry out their duties effectively.

d. International agencies, formal technical training establishments and local NGOs could provide both formal and in-service training focused on pollution control, waste treatment and disposal technologies, and operations and maintenance of waste-related infrastructure. Inter-country staff exchange programmes could also be established.

e. Countries, municipalities and local authorities, in collaboration with United Nations agencies, international organizations and funding agencies could focus, [as a first priority], on the rehabilitation and maintenance of existing facilities and [concentrate] technical assistance on improved maintenance practices and techniques; followed by the planning and construction of waste treatment facilities.

f. [Countries, municipalities and local authorities with appropriate international cooperation could establish programmes to ensure the source segregation and safe disposal of the hazardous components of municipal solid waste.]

g. [Countries with appropriate international cooperation could develop human wastes management plans giving due attention to the development and application of appropriate technologies and corresponding financial resources for their implementation.]

30. Information and research on various aspects of waste-related pollution control will be crucial for achieving the objectives of this programme. Activities in this area could include:

a. [An information clearing house to be established within a relevant United Nations agency with extensive networks at the regional, national and local levels to collect and disseminate information on all aspects of waste-management, including safe disposal. Through the clearing house, strengthen existing regional networks and create new ones in regions that do not have them.]

b. Relevant United Nations agencies could prepare guidelines and technical reports on subjects such as the integration of human settlements land use planning with waste disposal; environmental quantity criteria and standards; waste treatment and safe disposal options; industrial waste treatment; and landfill operations.

c. Research on critical subjects such as low-cost, low-maintenance wastewater treatment systems, safe sludge disposal options, industrial-waste treatment and low ecologically-safe waste-disposal technologies could be supported by the international donor community.

31. In appraising development projects in the fields of water supply and waste collection, the need for investments in waste-treatment facilities should be considered.

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D. EXTENDING WASTE-DISPOSAL SERVICE COVERAGE

Basis for action

32. By the end of the century over 2.0 billion people will be without access to basic sanitation and an estimated half of urban populations in developing countries will be without adequate solid waste-disposal services. As many as 5.2 million people, including 4 million children under 5 die each year from waste-related diseases. The health impacts are particularly severe for the urban poor. The health and environmental impacts of inadequate waste-management, however, go beyond the unserved settlements themselves and

result in water, land and air contamination and pollution over a wider area. Extending and improving waste collection and safe disposal services are crucial to gaining control over this form of pollution.

Objectives

33. The overall objective of this programme is to provide health-protecting, environmentally-safe waste collection and disposal services to all people. Specific supportive targets could be:

a. By [2000] all countries should have necessary technical, financial and human-resource capacity to ensure the provision of waste services commensurate with needs.

b. By [2025] all urban populations should be provided adequate waste services.

c. By [2050] full urban waste-service coverage should be maintained and full rural coverage with sanitation achieved.

Activities

34. Other Agenda 21 programme actions would contribute to the provision of waste services. These include:

a. The Drinking Water Supply and Sanitation; and the Water and Sustainable Urban Development Programme areas of the Agenda 21 proposals on Freshwater Resources (document: A/CONF.151/PC/42/Add.7).

b. The Environmental Infrastructure; and Human Settlements Management Programme areas of the Agenda 21 proposals on Human Settlements (document: A/CONF.151/PC/56).

c. "The Basic Health Needs Related to the Environment" programme area of the Agenda 21 proposals on environmental health aspects of development (document: A/CONF.151/PC/54).

35. Since most of these initiatives will require interventions within the human settlements context, an overall umbrella programme that coordinates and concentrates international efforts within the human settlements programme and leads to action at the national and local levels will prove essential.

The following activities are proposed under this programme area:

36. [Policy changes at the national and local levels could enhance the rate of waste-service coverage extension. These could include:

a. The full recognition and use of the range of low-cost options for waste-management including where appropriate their institutionalization and incorporation within codes of practice and regulation.

b. High priority given to the extension of waste-management services to all settlements irrespective of their legal status.

c. Integration of the provision and maintenance of waste-management services with other basic services such as water supply and stormwater drainage.]

37. [Considerable financial and technical cooperation will be required to increase coverage. National Governments, in collaboration with the United Nations, relevant international organizations, and multilateral financial institutions could undertake many activities of which the following are a sample:

a. Adjust priorities within waste-management programmes to give higher priority to meeting the waste-disposal service needs of the unserved, especially, the unserved urban poor.

b. Establish financing mechanisms for waste-management service development in deprived areas including appropriate modes of revenue generation.

c. Apply polluter pays principle by setting waste-management charges at rates that reflect the true economic costs of providing the service and ensure that those that generate the wastes pay the full cost of disposing of it in an environmentally-safe way.

d. Participatory planning and implementation procedures that involve communities, especially women, could be institutionalized.

e. Intercountry transfer of relevant technologies, especially technologies for high-density settlements, could be encouraged.]

38. Information and research activities could be enhanced. Countries, in cooperation with appropriate international organizations and NGOs could, for instance:

a. Find solutions and equipment for managing wastes in areas of concentrated populations. In particular, there is a need for appropriate refuse storage and collection systems and cost-effective and hygienic human-waste disposal options.

b. Prepare and disseminate guidelines, case studies, policy reviews and technical reports on appropriate solutions and modes of service delivery to unserved low-income areas.

c. A Settlement Infrastructure and Environment Programme could be launched following the Conference to coordinate the activities of all United Nations agencies involved in this area and include a clearing-house for information dissemination on all waste-management issues.

d. Launch campaigns to encourage active community participation in waste-management particularly household waste.

39. International organizations, national and local governments in collaboration with NGOs, could provide focused training on low-cost waste-disposal options and participatory techniques for their planning and delivery. Intercountry staff exchange programmes among developing countries could form part of such training.

40. Improvements in management techniques are likely to yield the greatest returns in terms of improving waste-management service efficiency. The United Nations, international organizations, and financial institutions could in collaboration with national and local governments develop and make operational management information systems (MIS) for municipal record-keeping and accounting and for efficiency and effectiveness assessment.

[The implementation by developing countries of specific programmes and actions envisaged under Agenda 21 will be subject to the provision of adequate new and additional financial resources and of technology on concessional, preferential and non-commercial terms.

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